VOLUME SOURCES		Easting (X)	Northing (Y)	Base Elevation	Rel Ht	Horizontal Dimension	Vertical Dimension	PM TEN	PMTENAN	NOX	SO2	CO	ALUMINUM	ARSENIC	COBALT	NICKEL
EP9029	Sunshportalaccrdsegment	707502.5	5000888.8	2383.8	5.0	37.21	5.58	0.1082	0.0720							
EP90210	Sunshportalaccrdsegment	707477.5	5000901.3	2382.5	5.0	37.21	5.58	0.1082	0.0720							
EP90211	Sunshportalaccrdsegment	707452.5	5000913.8	2376.6	5.0	37.21	5.58	0.1082	0.0720							

AREA CIRC SOURCES		Easting (X)	Northing (Y)	Base Elevation	Release Height	Rad. of Circle	Vert Dim	PMTEN	PMTENAN	NOX	SO2	CO	ALUMINUM	ARSENIC	COBALT	NICKEL
Source ID	Source Description	(m)	(m)	(m)	(ft)	(ft)	(ft)	(lb/hr)	(tpy)	(tpy)	(lb/hr)	(lb/hr)	(lb/hr)	(tpy)	(lb/hr)	(tpy)
EP401	waste rock storage pile	708122.0	5001650.4	2443.4	6.0	20.0	6.0	0.003	0.012				2.62E-04	2.52E-07	7.33E-05	4.21E-04
EP301	coarse ore stock pile	708144.5	5001640.8	2444.6	8.0	40.0	8.0	0.006	0.276				6.35E-04	5.68E-06	1.78E-04	1.01E-02
EP501	concrbuildingtailingstkpile	708259.0	5001610.0	2427.5	3.3	8.2	3.3	0.000	0.000					6.87E-07		
EP602	TWSFareamanagement	708700.0	5001650.0	2381.3	4.9	246.1	9.8	0.197	0.142				1.99E-02	2.85E-04	5.56E-03	5.20E-03
EP1702	topsoilstkpile	708609.0	5001378.5	2385.7	8.0	300.0		0.294	1.288							
EP1302	minedrockstcikpile	707434.4	5001916.0	2150.6	4.0	10.5	19.7	0.007	0.0002				7.06E-04	1.86E-06	1.97E-04	0.00E+00

AREA POLY SOURCES		Easting (X)	Northing (Y)	Base Elev	Rel Height	Number Vertices	Vertical Dim	PMTEN	PMTENAN	NOX	SO2	CO	ALUMINUM	ARSENIC	COBALT	NICKEL
Source ID	Source Descrip	(m)	(m)	(m)	(m)		(ft)	(lb/hr·ft²)	(tpy/ft²)	(tpy/ft²)	(lb/hr·ft²)	(lb/hr·ft²)	(lb/hr·ft²)	(tpy/ft²)	(lb/hr·ft²)	(tpy/ft²)
EP603	Tailing Waste	709125.7	5001478.1	2355.5	3	7	19.69	2.40E-07	1.05E-06				1.51E-11	7.47E-11	1.85E-11	2.63E-14

Modeling analyses were performed for all pollutants listed in Table 7-1, for each scenario, to estimate maximum impacts during each averaging period for which an applicable ambient air quality impact limit exists. While the annual PM-10 emission rates are shown, modeling is not provided because compliance with the annual average standard was more conservatively demonstrated using the 24 hour average emission rates. All model sources had emissions understood to represent worst-case permitted emissions for each averaging period to estimate the worst case impacts under allowable emissions from the facility. This is especially true in the Tram scenario results, since the road emissions modeled are consistent with those for the No Tram scenario though the majority fo the traffic there is by-passed by using the tram rather than trucking the ore to the mill. This was done to avoid duplicating most of the EP901 model sources, which would have made the modeling input file much more bulky. The stack parameters represent planned actual emissions scenarios. Potential worst-case impacts for each pollutant and averaging period were directly output by the model. All model source data underwent quality assurance review by the project engineering design team, Formation Capital, and Wildhorse Environmental engineers.

Two model source factors were employed. The wind speed factor was used for the wind erosion emissions from the stockpiles, which were calculated based upon a threshold wind speed of 12 miles per hour. The analysis conservatively used those emission factors for the 4 highest wind speeds of the six default wind speed categories in AERMOD. The road emissions also employed a factor which cut the max hourly road dust emissions in half during the winter. The onsite meteorological data confirms the obvious for the elevation of the facility; the ground will be frozen for the vast majority of the winter, and wet enough to minimize dust emissions at almost all other times.

Building downwash was accounted for by including in the AERMOD model analysis Prime building downwash from all buildings within the facility within 5 building dimensions of facility point sources.

Site review indicated that there were not any external co-contributing sources potentially affecting the project area. Mr. Mehr of IDEQ did not identify any cocontributing sources to include during pre-application meeting, discussions, or the modeling protocol review. Therefore, no cocontributing sources were included in the modeling analysis, consistent with the IDEQ approved modeling protocol.

Figure 7-1 shows the model layout, with the public access / ambient air boundary. That ambient air boundary is defined and defended below, consistent with IDEQ recommendations during the protocol review and follow up. Facility emission sources are shown and labeled in red. The primary sources that can be seen in Figure 7-1 are the facility roads. The Tailings and Waste Storage Facility (TWSF), and the topsoil stockpile are in the southeastern portion of the facility ambient air boundary. The Ram mine portal is at the end of the northern road. The Sunshine mine portal is at the end of the southwestern road. The crusher and concentrator buildings are near the road concentration points west of the TWSF, not far east of the ambient air boundary. More detail on facility emission sources can be seen on the figures that follow for the three primary activity areas. The background grid is the UTM coordinate system, NAD 27, whose units are in meters. The dots at UTM grid corners beyond the property boundary indicate the inner model receptors.

Figure 7-1 Model Facility Layout

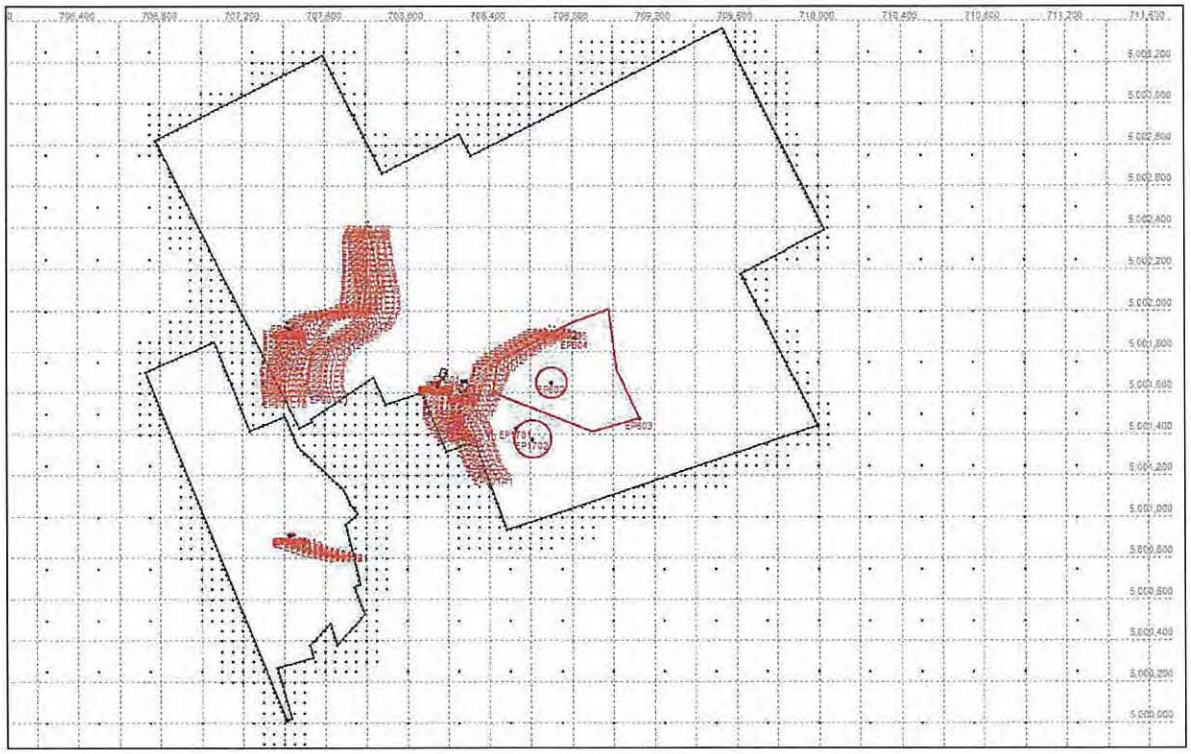


Figure 7-2 shows the model source details in the vicinity of the Ram mine portal. The vast majority of the ore from the project is expected to come from the Ram portal. The bunching of sources in the NW corner represents the tram loading area. The mine portal is seen as EP1601 in the center of the figure. The sources to the west of the portal represent the dumping of ore from mine trucks into a stockpile, and the loading of that ore into larger road trucks, all of which would occur only under the "No Tram" scenario. The "Tram" scenario would instead unload the ore into a hopper to the northwest of the portal, transfer it into tram buckets, and tram it overhead down to piles near the crusher building. The dots to the south and east represent the road switching back SE toward the crusher and concentrator building areas.

Figure 7-2 Model Layout: Ram Mine Portal Vicinity

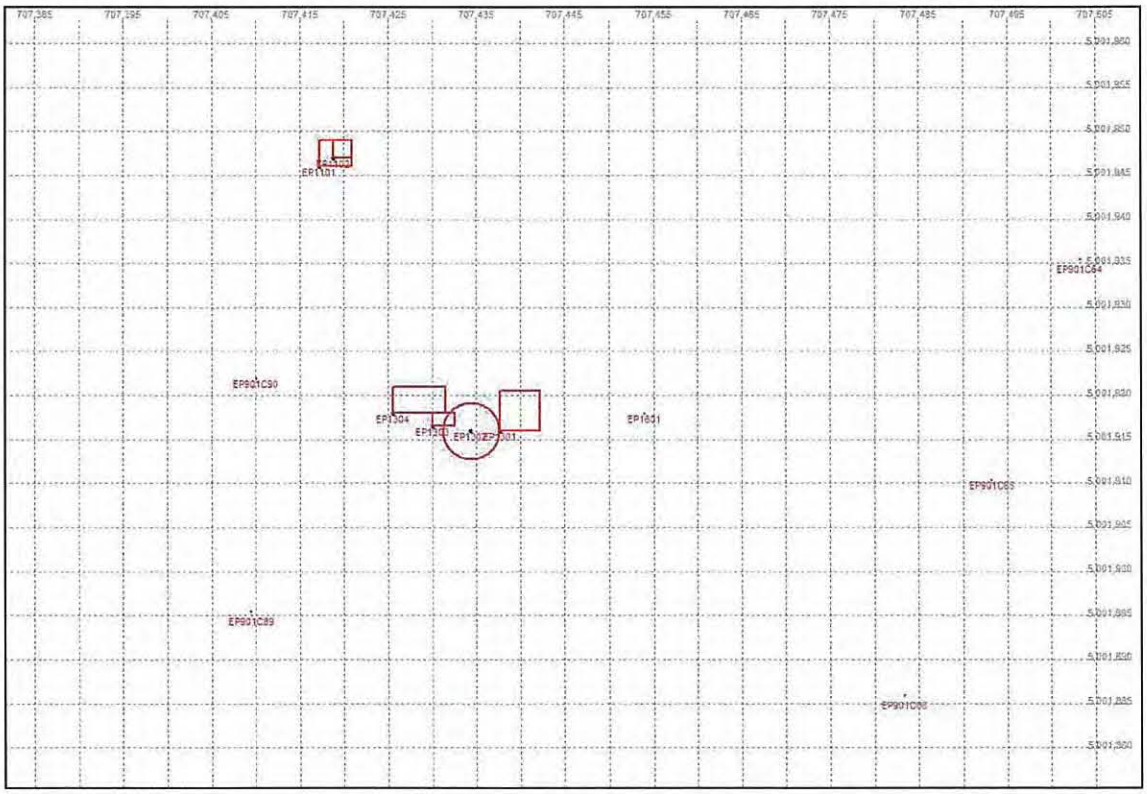


Figure 7-3 shows the model source details in the vicinity of the Sunshine mine portal. Ore from the Sunshine portal is expected to represent approximately 15% of the overall ore processed over the life of the project. Under this scenario, there will be a higher volume of lighter trucks on the surface roads because the ore would remain in the 20 ton trucks underground for transport to the crusher building area, unlike the Ram portal No Tram scenario where it would be transferred to larger trucks. The mine portal is seen as EP3001 in the center of the figure. A tram is not being considered for the Sunshine portal. The dots to the west represent the road heading up toward the crusher and concentrator building areas.

Figure 7-3 Model Layout: Sunshine Mine Portal Vicinity

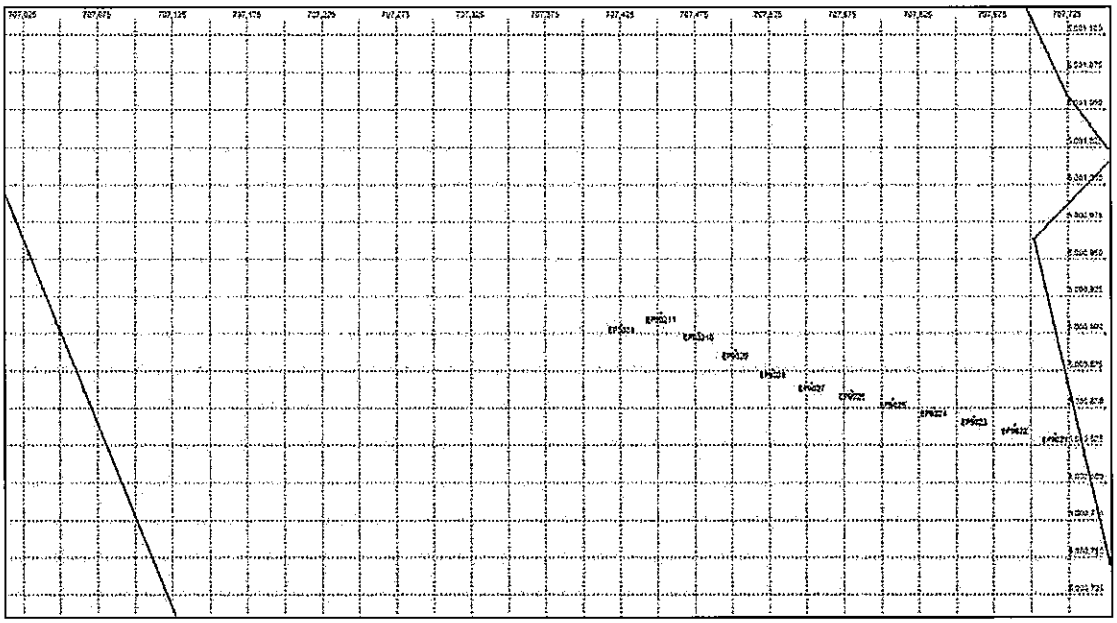
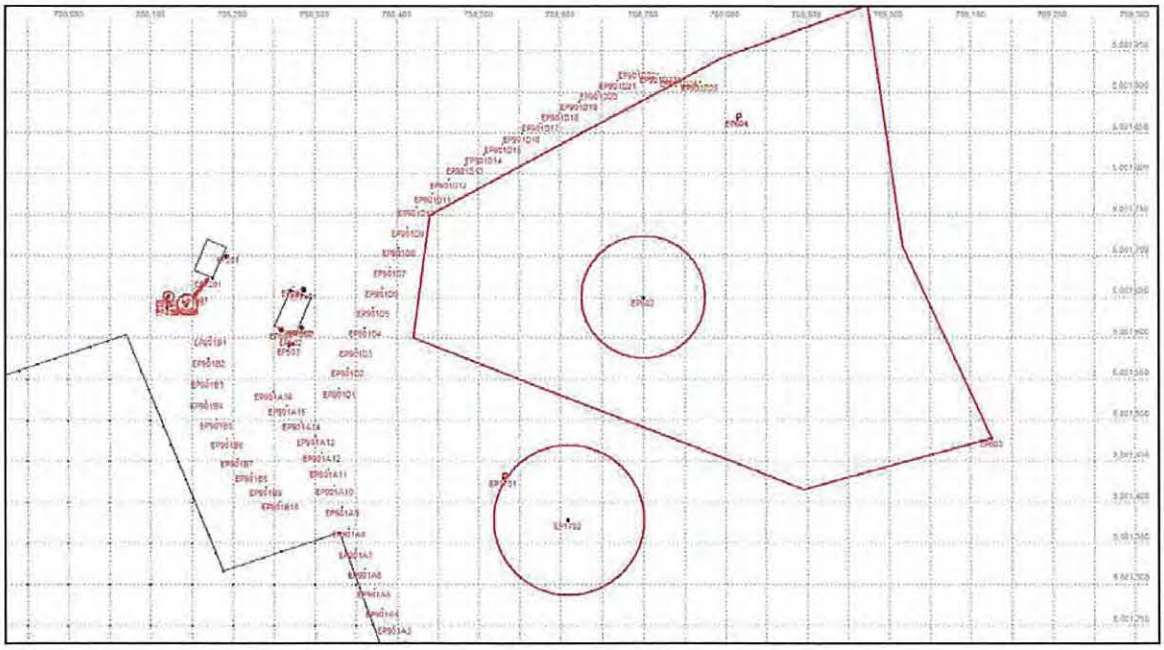


Figure 7-4 shows the model source details in the vicinity of the crusher and concentrator buildings where ore extracted from the mine via the portal is processed. The sources and buildings associated with those activities are shown on the west side of the figure. The crusher building, outlined in black, is located in the NW. The stockpiles of ore and waste rock, and transfers from there to the crusher feed bin are located S and SW of the crusher building. The dust collector stack which filters crusher building emissions is on the west side of the building. The concentrator building, outlined in black, is located more centrally in this figure. The fine ore bin is off the north side of the building, and the cement silo is off the east side of the building. Transfers and transport of materials are located to south of the building. Red dots show the roads accessing the crusher / concentrator area, and the paths to the TWSF tailings and waste rock management area to the east, and the topsoil stockpile SW of the TWSF.

Figure 7-4 Model Layout: Crusher and Concentrator Building Vicinity



Ambient Air Boundary / Receptor Network / Model Domain

The Idaho Cobalt Project is located in a remote, mountainous area in east-central Idaho. There are no residences for miles, and limited roads. Public access is prevented by a gate on the only access road up Blackbird Creek from the south, controlled via a lock by the project proponents and the staff at the Blackbird Mine. The road to the north dead ends, so the gate to the south controls all vehicle access. The USFS Record of Decision (ROD) dated June 12, 2008, to approve a modified ICP Plan of Operations to mine, requires Formation to "control public access to mine areas". Access to the site will be restricted through a manned security gate located on Blackbird Creek Road, the only road access to the site. As fencing is impractical and unfavorable to the USFS, signage will be posted both at the South entrance to the site on Blackbird Creek Road and at the North extent of

the site near the confluence of Bucktail Creek and South Fork Big Deer Creek. Additionally, staff will be trained to observe for and discourage unauthorized access. Formation will work with the USFS to ensure our obligation to control access to the ICP project site is met.

The ambient air boundaries for this project are based only upon the areas within the Forest Service authorized claims where ICP activities will occur. That area includes only the northern half of the claim boundary for which the ICP has received a Record of Decision on its Plan of Operations from the Forest Service. The project public access / ambient air boundary extends south across the Sun claims shown in Figure 1-2, and about half of the way south through the HZ claims. The entire area within the ambient air boundaries is in direct line of sight from within the activity areas (e.g. the Ram mine portal to the north, the Sunshine mine portal to the west, and the crusher / concentrator area and TWSF on the high point somewhat centrally located within that area).

Consistent with recommendations made and accepted by IDEQ in responses to the IDEQ comments in the modeling protocol letter (see Appendix E, Attachments 1, 2, and 3), model receptors were placed from the public access limit out at least 1 kilometer in every direction. The dense inner model receptors placed at 25 meter intervals along the ambient air boundary can be seen as black dots outside the ambient air boundary in Figure 7-5. The AERMOD modeling domain was conservatively calculated to include nearly the entire USGS quad for any receptor or any elevated point beyond the edge of the receptor network that meets the AERMAP / AERMOD guidance condition of 10% elevation gain. This method is built into the BeeLine BEEST software used to prepare these analyses, and is recommended as conservative in meeting or exceeding new EPA guidance by software developer Dick Perry of Bee-Line software. Twenty USGS quads were included in the modeling domain. Documentation on the AERMOD domain calculations and identified USGS quads is included among the electronic files accompanying this submission.

Figure 7-5 shows the complete model receptor network. Receptor density is 50 meters for the first 100 meters along the ambient air boundary. Actually, that receptor density is carried well beyond the 100 meters in the vicinity of model sources, and slightly lower where impacts are shown to be insignificant. The outer model receptors are spaced at 250 meter intervals out to at least 1 kilometer.

Figure 7-5 Model Receptor Network

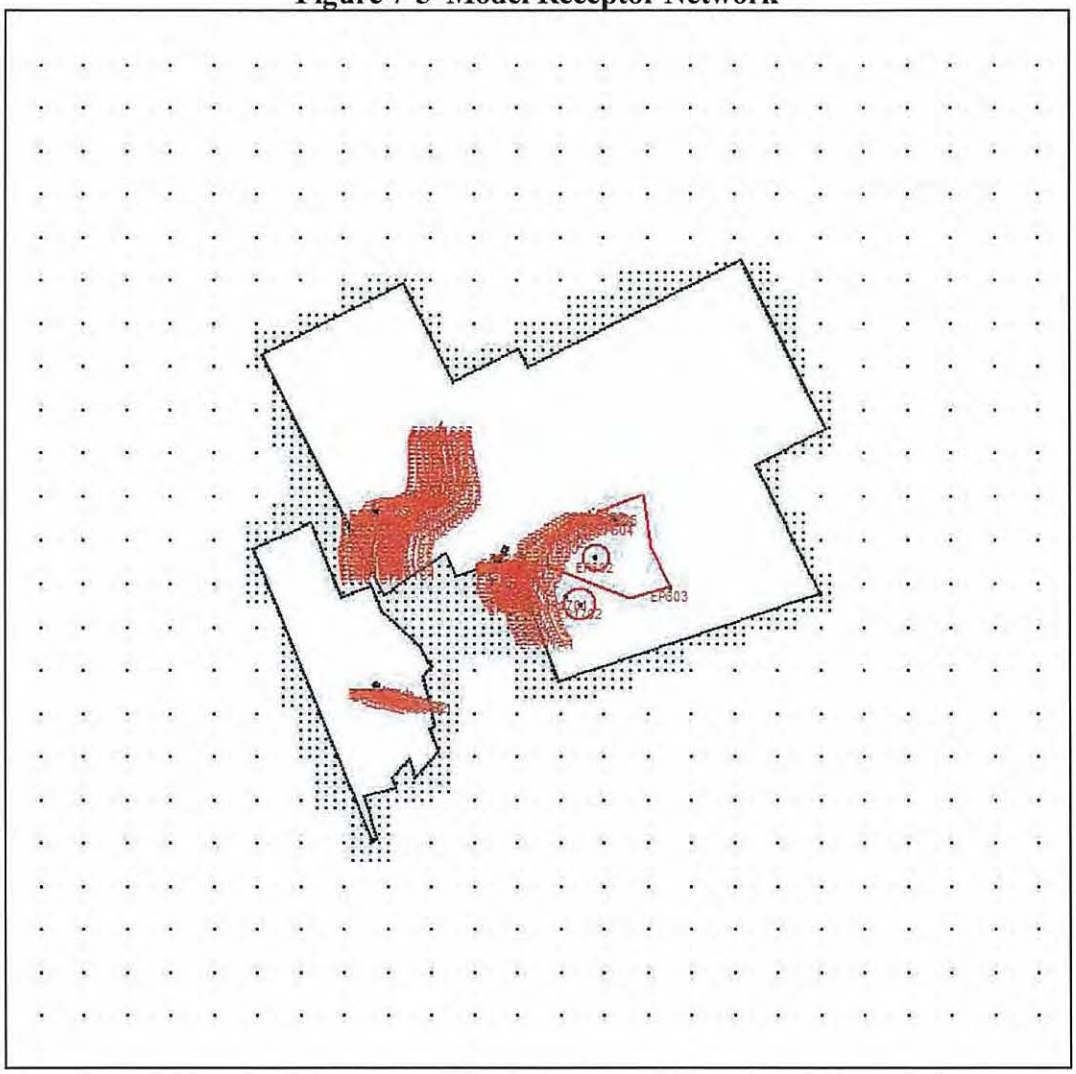
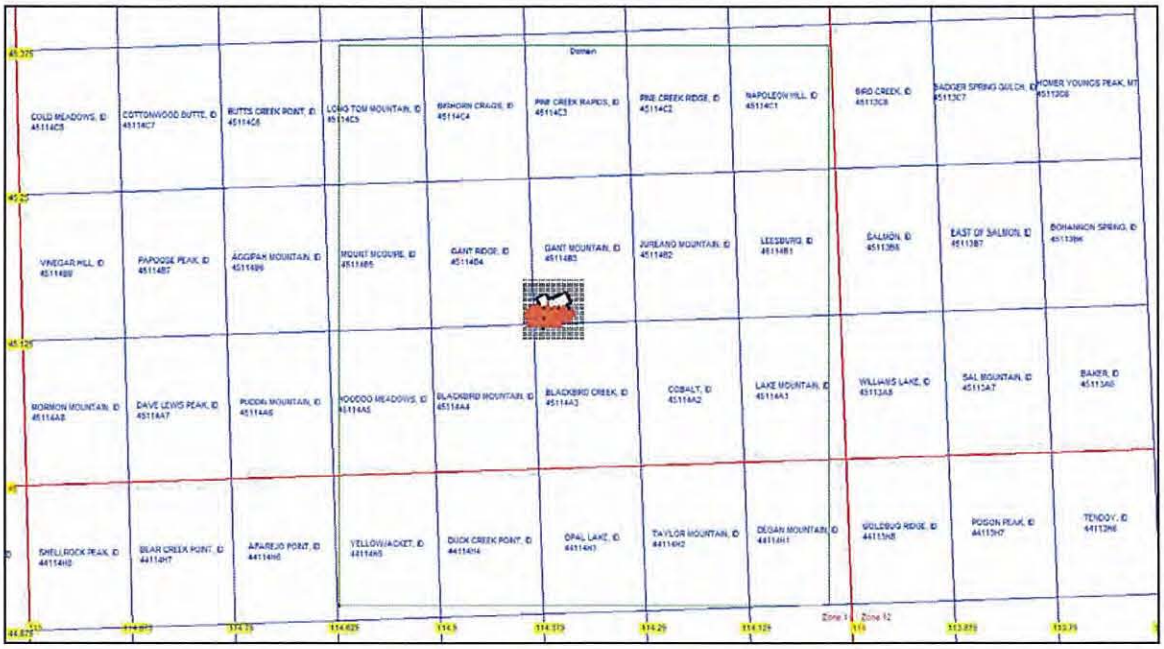


Figure 7-6 shows the facility, its ambient air boundary, the model receptor network (the black dots around the denser inner model receptors), the AERMOD model domain (the green line just inside USGS quad lines outside the receptor network), and the USGS quad maps that cover the model domain.

Figure 7-6 Model Domain and Receptor Network



All model predicted maximum facility impacts occurred at the ambient air boundary, within the 25 meter grid density. The vast majority of all predicted significant impacts occur within the areas of 25 to 50 meter grid density. The maximum impacts are shown to drop off significantly moving beyond the area of 50 meter model grid density.

The receptor networks employed in the modeling were consistent with those in the IDEQ approved modeling protocol and subsequent discussions resolving IDEQ comments associated with that protocol approval, and ensured that the analysis meets or exceeds IDEQ receptor network requirements and capture the maximum impact from the facility. Therefore, no supplemental receptor network or expansion of the model domain was required or included.

AERMAP Input and Elevation Data

All building, tank, and source base and receptor elevations were calculated from USGS 7.5-degree 30m or less horizontal resolution DEM data (UTM NAD 27) downloaded from Geo Community www.geocommunity.com), the USGS freeware download system, using the Bee-Line BEEST preprocessing system. That same DEM data was used in the AERMAP preprocessor to prepare the terrain data for the model domain to run AERMOD. The anchor location and user location required by AERMAP was near the

center of the crusher and concentrator building area. Electronic data files sufficient to review or duplicate the AERMAP model application are included with this report.

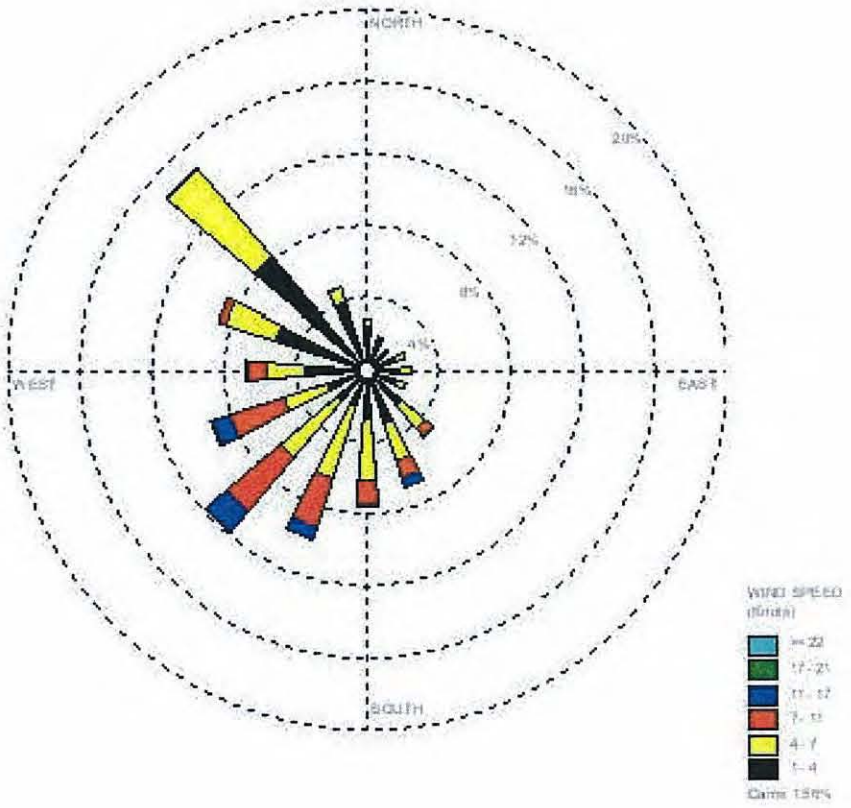
Meteorological Data and Local Parameters

One year of meteorological data was used for the dispersion modeling analysis. Consistent with IDEQ's recommendations in the modeling protocol approval, NWS upper air data for Great Falls, MT for 2004 was purchased, and used with purchased NWS surface data in SAMSON format for Missoula, MT for that year. One year of onsite data for 2004 was Q/A'ed and merged with the referenced Montana meteorological data using the AERMET computer program to generate 2004 SFC and PFL files based upon onsite data for use in AERMOD. Documentation on the generation of that meteorological data is included in Attachment 5 of Appendix E, and supported with the electronic files submitted with this permit application (in the file Weather_DataQA.xls and all AERMET input and output files). A wind-rose of the meteorological data is provided in Figure 7-7.

Figure 7-7 Wind Rose for AERMET Generated Onsite Data File

WIND ROSE PLOT
Idaho Cobalt Project

DISPLAY
Wind Speed
Direction (blowing from)



Land Use Classification

The facility is in an unpopulated rural mountainous area that would be considered rural by the Auer classification scheme, or any other consideration. Therefore, rural dispersion algorithm was used everywhere in the modeling analyses.

Background Concentrations

The background concentrations used are the IDEQ recommended values for remote rural area ambient background concentrations by Mr. Mehr of IDEQ. They are appropriate since there is little development in the project vicinity, and little regular activity that would generate any emissions. The IDEQ rural remote background values used are shown below in Table 7-2.

Evaluation Of Compliance With Impact Standards

The impact limit standards applicable to this permit application are the National Ambient Air Quality Standards (NAAQS) for criteria pollutants, and the IDAPA 58.01.01.585 and 586 limits for TAPs, cobalt and arsenic respectfully. Predicted maximum total concentrations reported are the model predicted maximum ambient impacts during facility operation plus background concentrations for criteria pollutants. Model predicted maximum impacts are the highest predicted impact for the annual average period and all TAP analyses, and highest second maximum for all shorter averaging periods for criteria pollutants, consistent with Section 5.1 of the IDEQ Modeling Guidelines. Table 7-2 shows the maximum model predicted impact each year for each pollutant for each averaging period modeled. A percent of allowable impact column is included to be consistent with the IDEQ MI forms.

Table 7-2 Background Concentrations, Ambient Impact Limits and Method of Comparison with Ambient Air Quality Standards

Pollutant	Averaging Period	Backgr Conc ($\mu g/m^3$)	Modeled Maximum Impact ($\mu g/m^3$)			Total Concentration ($\mu g/m^3$)	NAAQS, AAC or AACC [1] ($\mu g/m^3$)	Total Conc as % of applicable Impact limit	Location of maximum predicted impact
			Tram Scen	No Tram Scen	Sunsh Portal Scen	Max of any of the three scenarios			
Arsenic	Annual	N/A	.00140	.00121	.00143	0.00143	0.00230	62.2%	Bndry W of crusher / conc bldgs
Cobalt	24-hour	N/A	0.09	0.08	0.10	0.10	50	0.2%	Bndry W of crusher / conc bldgs
PM_{10}	24-hour	43	63.6	64.2	56.2	107.2	150	71.5%	Bndry SW of

Pollutant	Averaging Period	Backgr Conc ($\mu g/m^3$)	Modeled Maximum Impact ($\mu g/m^3$)			Total Concentration ($\mu g/m^3$)	NAAQS, AAC or AACC [1] ($\mu g/m^3$)	Total Conc as % of applicable Impact limit	Location of maximum predicted impact
			Tram Scen	No Tram Scen	Sunsh Portal Scen	Max of any of the three scenarios			
	Annual	9.6	17.7	17.8	18.3	27.9	50	55.8%	Ram Portal at rd switchback
NO_2	Annual	4.3	3.4	3.4	2.3	7.7	100	7.7%	Bndry W of Ram portal
SO_2	3-hour	34	282	282	282	316	1300	24.3%	Bndry W of crusher / conc bldgs
	24-hour	26	76.6	76.6	76.6	102.6	365	28.1%	
	Annual	8	4.5	4.5	4.5	12.5	80	15.6%	
CO	1-hour	3600	1443	1443	975	3743	40000	9.4%	Bndry W of Ram portal
	8-hour	2300	438	438	309	2738	10000	27.0%	

1 AACC for arsenic includes T-RACT reduction as per IDAPA 58.01.01.210.12

Results reported for the tram scenario for the Ram portal are very conservative because they include the much higher road traffic levels consistent with the no tram scenario (to avoid another lengthy model run with many duplicative model volume sources whose only difference would be a lower emission rate), when in fact the tram would eliminate all haul truck traffic between the Ram portal and the crusher / concentrator area.

Maximum model predicted impacts for each pollutant and averaging period occurred at the ambient air boundary near project activity, where the model receptor network included receptors every 25 meters. The maximum impacts are shown to be well below all applicable impact levels for all criteria pollutants. PM-10 and particulate TAP component arsenic are the only pollutant for which ambient impacts are predicted to reach half the applicable impact limit. Predicted PM-10 impacts are caused by fugitive emissions, and are well below the significant limit within 1 kilometer of the ambient air boundary. The maximum predicted impact is driven by impacts from a switchback from the mine portal to the concentrator building that parallels the ambient air boundary. Ore truck traffic on that stretch under the No Tram scenario leads maximum fugitive particulate impacts. The modeling methodology makes those impacts also show up under the tram scenario, though the trucks that generate those impacts would not be running when the tram is operating. As noted in Section 4.0, potential particulate emissions, and associated arsenic and cobalt emissions, are quite conservative given the particle sizes and actual moisture distribution anticipated in the mined rock, ore, and by-products.

Total concentrations under worst-case operating conditions would not reach one third of the NAAQS for any pollutant other than PM-10. Maximum predicted facility impacts are shown to be low enough to prevent any ambient exceedances of that NAAQS under worst case operating conditions.

Figure 7-8 shows the maximum model predicted 24-hour average facility PM-10 impacts. Those impacts occurred under the Tram scenario (because the tram scenario conservatively includes, in addition to all tram or transfer emissions, road traffic levels consistent with the no-tram scenario instead of the much lower road emission levels that would occur while the tram is operating). Maximum model predicted annual average PM-10 impacts occurred in the same location. The series of red dots along and then turning NE away from the ambient air boundary near the point of highest impacts are the model sources representing the road from the portal switching back up to the crusher / concentrator area. The Ram portal is to the NE of the maximum impact location, and is an insignificant contributor to impacts at the maximum impact location. A smaller secondary maximum impact area can be seen at the boundary in the vicinity of the crusher and concentrator buildings and their access roads to the south. All receptors with predicted significant 24-hour average impacts (maximum impact over 5 ug/m^3) are shown in bold below. Red and magenta values offsite represent the maximum model predicted impacts. The significant impact area for annual average PM-10 impacts is effectively the same as the area shown here for 24 hour average. A plot of annual average impacts covering the entire significant impact area is included in the zipped electronic files provided on CD-ROM. As with all other pollutants, predicted impacts drop off to insignificant levels before the end of the receptor network.

Figure 7-8 Model Predicted Maximum 24-hour Average PM-10 Impacts

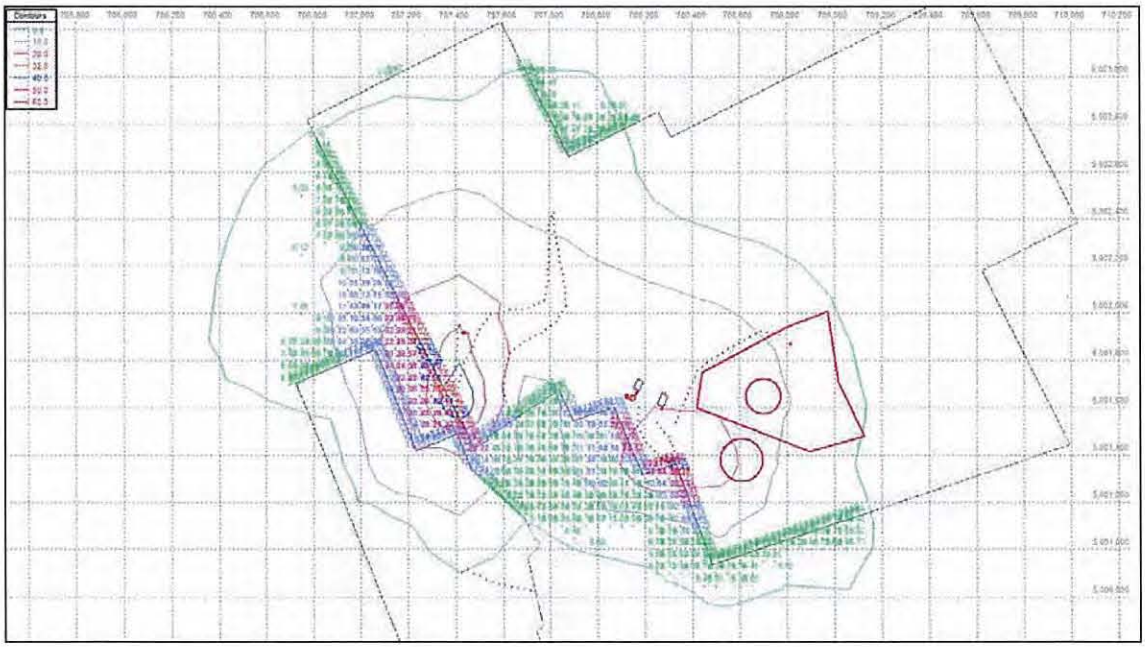
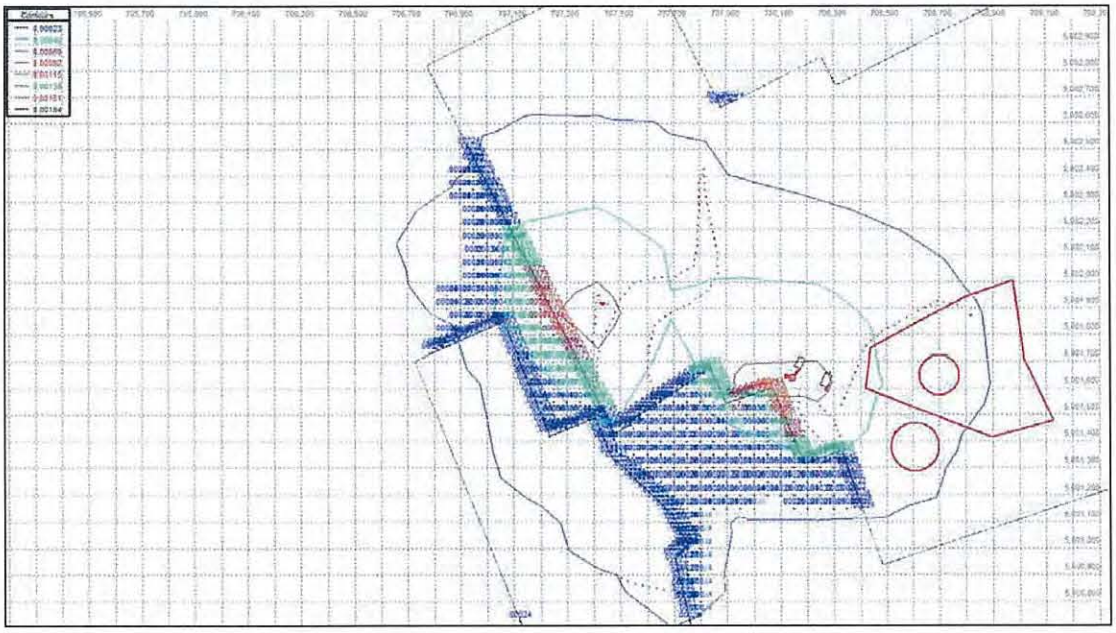


Figure 7-9 shows the maximum model predicted annual average facility arsenic impacts. Those impacts occurred under the Tram scenario. All receptors with predicted impacts within 10% of the T-RACT adjusted AACC for arsenic are shown in bold print below. As for PM-10, red print offsite represents the maximum model predicted impact locations. The impact pattern for arsenic is similar to that for PM-10, since arsenic emissions are based upon conservative estimates of percentage of arsenic in non road based particulates (Pm, not PM-10).

Figure 7-9 Model Predicted Maximum Annual Average Arsenic Impacts



Electronic Copies of the Modeling Files

Electronic copies of all input, output, and support modeling files necessary to duplicate the model results are provided and accompany this submission. Those files include:

- ICP0808_2004_pp.ext, where:
  pp = the pollutant ID as in Table 1, and
  ext = .DAT for AERMOD input files, .LST for AERMOD model output files
- ICP AERMAP.MAP and ICP AERMAP.MOU AERMAP input and output files
- The ICP04.PFL and SFC AERMET meteorological data files
- BPIP files ICP.*

Appendix A

IDEQ Permit Application Forms

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

PERMIT TO CONSTRUCT APPLICATION

Revision 3
04/03/07

Please see instructions on page 2 before filling out the form.

DEQ USE ONLY
Date Received
Project Number
Payment / Fees Included? Yes ☐ No ☐
Check Number

COMPANY NAME, FACILITY NAME, AND FACILITY ID NUMBER

1. Company Name	Formation Capital Corporation, U.S.		
2. Facility Name	Idaho Cobalt Project	3. Facility ID No.	N/A
4. Brief Project Description - One sentence or less	Cobalt mine and mill.		

PERMIT APPLICATION TYPE

5. ☒ New Facility ☐ New Source at Existing Facility ☐ Unpermitted Existing Source
☐ Modify Existing Source: Permit No.:____ Date Issued:____
☐ Required by Enforcement Action: Case No.:____

6. ☒ Minor PTC ☐ Major PTC

FORMS INCLUDED

Included	N/A	Forms	DEQ Verify
☒	☐	Form GI – Facility Information	☐
☒	☐	Form EU0 – Emissions Units General	☐
☒	☐	Form EU1 - Industrial Engine Information Please Specify number of forms attached: 1	☐
☒	☐	Form EU2 - Nonmetallic Mineral Processing Plants Please Specify number of forms attached: 1	☐
☐	☒	Form EU3 - Spray Paint Booth Information Please Specify number of forms attached: ____	☐
☐	☒	Form EU4 - Cooling Tower Information Please Specify number of forms attached: ____	☐
☐	☒	Form EU5 – Boiler Information Please Specify number of forms attached: ____	☐
☐	☒	Form HMAP – Hot Mix Asphalt Plant Please Specify number of forms attached: ____	☐
☐	☒	Form CBP - Concrete Batch Plant Please Specify number of forms attached: ____	☐
☒	☐	Form BCE - Baghouses Control Equipment	☐
☐	☒	Form SCE - Scrubbers Control Equipment	☐
☒	☐	Forms EI-CP1 - EI-CP4 - Emissions Inventory– criteria pollutants (Excel workbook, all 4 worksheets)	☐
☒	☐	PP – Plot Plan	☐
☒	☐	Forms MI1 – MI4 – Modeling (Excel workbook, all 4 worksheets)	☐
☒	☐	Form FRA – Federal Regulation Applicability	☐

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

PERMIT TO CONSTRUCT APPLICATION

Revision 3
03/26/07

Please see instructions on page 2 before filling out the form.

All information is required. If information is missing, the application will not be processed.

IDENTIFICATION	
1. Company Name	Formation Capital Corporation, U.S.
2. Facility Name (if different than #1)	Idaho Cobalt Project
3. Facility I.D. No.	N/A
4. Brief Project Description:	Cobalt mine and mill
FACILITY INFORMATION	
5. Owned/operated by: (√ if applicable)	☐ Federal government ☐ County government ☐ State government ☐ City government
6. Primary Facility Permit Contact Person/Title	Preston Rufe, P.E., Environmental Manager
7. Telephone Number and Email Address	208-756-4578x24 / prufe@formcap.com
8. Alternate Facility Contact Person/Title	Guy Jeske, P.E., General Manager, Idaho Cobalt Project
9. Telephone Number and Email Address	208-756-4578x4 / gjeske@formcap.com
10. Address to which permit should be sent	812 Shoup Street
11. City/State/Zip	Salmon ID 83467
12. Equipment Location Address (if different than #10)	45 degrees 07' 50" N Lat., 114 degrees 21' 42" W Long.
13. City/State/Zip	Cobalt, Idaho
14. Is the Equipment Portable?	☐ Yes ☒ No
15. SIC Code(s) and NAISC Code	Primary SIC: 1061 Secondary SIC (if any): NAICS: 212229
16. Brief Business Description and Principal Product	Cobalt mining, milling and production of ore concentrate
17. Identify any adjacent or contiguous facility that this company owns and/or operates	N/A
PERMIT APPLICATION TYPE	
18. Specify Reason for Application	☒ New Facility ☐ New Source at Existing Facility ☐ Unpermitted Existing Source ☐ Modify Existing Source: Permit No.:____ Date Issued: ____ ☐ Permit Revision ☐ Required by Enforcement Action: Case No.:____

CERTIFICATION		
IN ACCORDANCE WITH IDAPA 58.01.01.123 (RULES FOR THE CONTROL OF AIR POLLUTION IN IDAHO), I CERTIFY BASED ON INFORMATION AND BELIEF FORMED AFTER REASONABLE INQUIRY, THE STATEMENTS AND INFORMATION IN THE DOCUMENT ARE TRUE, ACCURATE, AND COMPLETE.		
19. Responsible Official's Name/Title	Guy Jeske, P.E., General Manager, Idaho Cobalt Project	
20. RESPONSIBLE OFFICIAL SIGNATURE	Guy Jeske	Date: October 29, 2008
21. ☒ Check here to indicate you would like to review a draft permit prior to final issuance.		

Emissions Unit - General **Form EU0**

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

PERMIT TO CONSTRUCT APPLICATION

Revision 3
03/27/07

Please see instructions on page 2 before filling out the form.

IDENTIFICATION		
Company Name: Formation Capital Corporation, U.S.	Facility Name: Idaho Cobalt Project	Facility ID No:
Brief Project Description:	Cobalt mine and mill.	

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION	
1. Emissions Unit (EU) Name:	CEMENT SILO
2. EU ID Number:	EP1501
3. EU Type:	☒ New Source ☐ Unpermitted Existing Source ☐ Modification to a Permitted Source -- Previous Permit #: Date Issued:
4. Manufacturer:	COLUMBIAN TECHTANK
5. Model:	N/A
6. Maximum Capacity:	158 TONS
7. Date of Construction:	SPRING 2009
8. Date of Modification (if any)	
9. Is this a Controlled Emission Unit?	☐ No ☒ Yes If Yes, complete the following section. If No, go to line 18.

EMISSIONS CONTROL EQUIPMENT						
10. Control Equipment Name and ID:	EP1501					
11. Date of Installation:	Spring 2009	12. Date of Modification (if any):				
13. Manufacturer and Model Number:	Ultra Industries Model BB-25-58-IIG					
14. ID(s) of Emission Unit Controlled:	EP1501					
15. Is operating schedule different than emission units(s) involved?	☐ Yes ☒ No					
16. Does the manufacturer guarantee the control efficiency of the control equipment?	☒ Yes ☐ No (If Yes, attach and label manufacturer guarantee)					
	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency	99.8%	99.8%				
17. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.						

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)	
18. Actual Operation	24/7/50 WEEKS
19. Maximum Operation	24/7/52 WEEKS

REQUESTED LIMITS	
20. Are you requesting any permit limits?	☐ Yes ☒ No (If Yes, check all that apply below)
☐ Operation Hour Limit(s):	
☐ Production Limit(s):	
☐ Material Usage Limit(s):	
☐ Limits Based on Stack Testing	Please attach all relevant stack testing summary reports
☐ Other:	
21. Rationale for Requesting the Limit(s):	

Industrial
Air Filtration
Equipment

ULTRA INDUSTRIES, INC.

2300 South Street
Racine, WI 53404
(262) 633-5070
FAX: (262) 633-5102

OUR WARRANTY FOR EMISSIONS IS AS FOLLOWS:

ULTRA INDUSTRIES, INC. warrants that the particulate matter concentration in the effluent gas will not exceed an average of 0.02 grains per actual cubic foot, when the inlet particulate concentration is 20 grains (or less) per cubic foot. The warranty is based on particles over 2 microns in diameter, and on the equipment being properly installed and maintained according to ULTRA INDUSTRIES, INC. instructions. Effluent testing, if required, will be conducted in general accordance with the procedures outlined in the power test code #27-1957 (ASME).

GENERAL DIMENSIONS

NO. OF BAGS	BAG LGH (IN)	FILTER AREA (SQ. FT.)	NO. OF VALVES	100 PSI COMP. AIR (SCFM)	EST. WEIGHT (LBS.)	OUTLET SIZE (IN)	A	B	C	D	E	F
BB 4	36	17	2	2.0	262	2"ø	1'-4"	3'-10"	5'-2"	18"	3 SP @ 4	20
	58	29		2.2	333	THRU	1'-4"	5'-8"	7'-0"			
	84	43		2.7	405	3"ø	1'-4"	7'-10"	9'-2"			
BB 9	36	39	3	4.0	399	3"ø	2'-0"	3'-10"	5'-2"	26"	5 SP @ 4	28
	58	65		4.5	493	THRU	2'-0"	5'-8"	7'-0"			
	84	95		5.0	575	6"ø	2'-0"	7'-10"	9'-2"			
BB 16	58	115	4	5.9	675	5"ø	2'-8"	5'-8"	7'-0"	34"	7 SP @ 4	36
	84	170		6.2	785	THRU	2'-8"	7'-10"	9'-2"			
	100	203		6.4	887	8"ø	2'-8"	9'-2"	10'-6"			
BB 25	58	180	5	6.8	879	7"ø	3'-4"	5'-8"	7'-0"	42"	9 SP @ 4	44
	84	265		7.5	1017	THRU	3'-4"	7'-10"	9'-2"			
	100	317		7.8	1289	11"ø	3'-4"	9'-2"	126"			
BB 36	58	259	6	8.2	1242	9"ø	4'-0"	5'-8"	7'-0"	50"	11 SP @ 4	52
	84	382		8.4	1444	THRU	4'-0"	7'-10"	9'-2"			
	100	457		8.8	1600	12"ø	4'-0"	9'-2"	10'-6"			

CUSTOMER DATA

_____ AIR VOLUME
_____ FILTER AREA
_____ AIR/CLOTH RATIO
_____ PRODUCT
_____ TEMPERATURE
_____ DUST LOADING

CONSTRUCTION

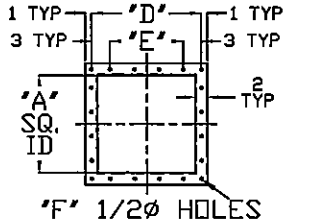
___ MS (STANDARD)
___ SS (DUST CONTACT)
___ SS (GAS CONTACT)
___ OTHER_____

FILTER BAGS

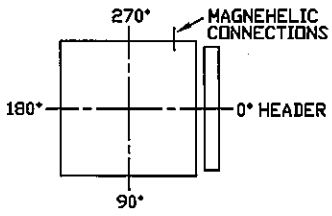
___ STANDARD 16 OZ. PE
___ OTHER_____

OPTIONS & ORIENTATIONS

___ OUTLET _____
___ BIRDSCREEN _____
___ C.A.P. ACCESS _____
___ D.A.P. ACCESS _____
___ PLATFORM _____
___ LADDER _____
___ FAN _____
___ INTERIOR PAINT _____
___ SUPPORT GRID _____
___ EXPLOSION DOOR _____
___ INSULATION _____
___ SPRINKLER _____
___ SOLENOID BOX _____
___ PULSE ON DEMAND _____
___ PRESSURE SWITCH _____
___ OTHER _____



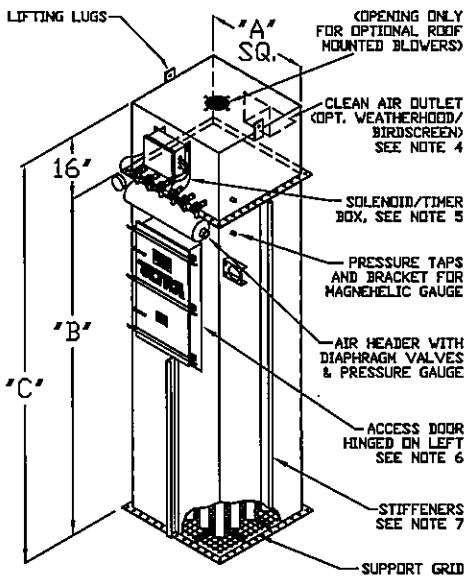
COLLECTOR BASE FLANGE
FORMED 2 X 12 GA.



ORIENTATION VIEW
FOR LOCATING COMPONENTS ONLY

SHOP NOTES

1) DESIGN PRESSURE UP TO +/- 20" W.G.
2) SURFACE FINISH: ALL EXTERIOR MS SURFACES FINISH: ONE (1) COAT SHERWIN WILLIAMS METALASTIC DTM ACRYLIC MODIFIED ENAMEL (SWB55Z600SHG) ULTRA GRAY @ 4 MILS D.F.T. MIN.
3) AIR HEADER IS ALWAYS LOCATED AT 0 DEGREES.
4) CLEAN AIR OUTLET CANNOT BE AT 0 DEGREES.
5) A NEMA 4 SOLENOID/TIMER BOX ASSEMBLY IS SUPPLIED. THE SOLENOID VALVES ARE PREWIRED TO THEIR RESPECTIVE TIMER OUTPUT TERMINALS. THE SOLENOID PORT IS PRE-CONNECTED TO ITS RESPECTIVE DIAPHRAGM VALVE RELIEF PORT USING POLY-FLOW TUBING.
6) ALL UNITS WITH 58" & 84" FILTER BAGS WILL HAVE 20" X 36" HINGED ACCESS DOORS. ALL UNITS WITH 100" FILTER BAGS WILL HAVE 20" X 44" HINGED ACCESS DOORS. MODEL BB-9-36 WILL HAVE A 20" X 24" HINGED ACCESS DOOR. MODEL BB-4-36 WILL A 16" X 24" BOLTED ACCESS DOOR. MODEL BB-4-58 WILL HAVE HAVE A 16" X 36" BOLTED ACCESS DOOR.
7) STIFFENERS WILL BE USED ON (BB-36 & BB-25-100) UNITS ONLY.
8) GENERAL ARRANGEMENT IS TO BE USED FOR REFERENCE ONLY AND NOT FOR CONSTRUCTION UNLESS CERTIFIED BY CUSTOMER.



REV.	DESCRIPTION	DATE BY

UNITS: UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES.

TOLERANCES: FRACTIONAL ± 1/8" ANGULAR ± .5°

ULTRA INDUSTRIES, INC.
1908 DEKOVEN AVE. RACINE, WISCONSIN 53403
PHONE: 262/633-5070 FAX: 262/633-5102

FOR SPARE PARTS, CALL: 1-800-36ULTRA

SCALE	N.T.S.	SERIAL NO.s	ARRANGEMENT II	DRAWN BY:	MLD
DATE	1-2000			APPROVED BY:	

GENERAL ARRANGEMENT

MODEL	DRAWING NUMBER	REV.
BB-4 --- BB-36 COLLECTORS BOTTOM BAG REMOVAL	BB4-36 II	0

Emissions Unit - General **Form EU0**

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

PERMIT TO CONSTRUCT APPLICATION

Revision 3
03/27/07

Please see instructions on page 2 before filling out the form.

IDENTIFICATION		
Company Name: Formation Capital Corporation, U.S.	Facility Name: Idaho Cobalt Project	Facility ID No:
Brief Project Description:	Cobalt mine and mill.	

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION	
1. Emissions Unit (EU) Name:	FINE ORE BIN
2. EU ID Number:	EP1401
3. EU Type:	☒ New Source ☐ Unpermitted Existing Source ☐ Modification to a Permitted Source -- Previous Permit #: Date Issued:
4. Manufacturer:	BOSS TANK
5. Model:	13311
6. Maximum Capacity:	510 TONS
7. Date of Construction:	SPRING 2009
8. Date of Modification (if any)	
9. Is this a Controlled Emission Unit?	☐ No ☒ Yes If Yes, complete the following section. If No, go to line 18.

EMISSIONS CONTROL EQUIPMENT			
10. Control Equipment Name and ID:	EP1401		
11. Date of Installation:	Spring 2009	12. Date of Modification (if any):	
13. Manufacturer and Model Number:	CPE Filers Inc		
14. ID(s) of Emission Unit Controlled:	72-BF-016-C		
15. Is operating schedule different than emission units(s) involved?	☐ Yes ☒ No		
16. Does the manufacturer guarantee the control efficiency of the control equipment?	☒ Yes ☐ No (If Yes, attach and label manufacturer guarantee)		

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency	75%	75%				

17. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency.

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)	
18. Actual Operation	24/7/50 WEEKS
19. Maximum Operation	24/7/52 WEEKS

REQUESTED LIMITS	
20. Are you requesting any permit limits?	☐ Yes ☒ No (If Yes, check all that apply below)
☐ Operation Hour Limit(s):	
☐ Production Limit(s):	
☐ Material Usage Limit(s):	
☐ Limits Based on Stack Testing	Please attach all relevant stack testing summary reports
☐ Other:	
21. Rationale for Requesting the Limit(s):	

C.P.E.
FILTERS
INC.

June 26, 2008

Mr. John Kelly
Samuel Engineering, Inc.
8450 E. Crescent Parkway
Suite 200
Greenwood Village, CO 80111

Subject: Emissions Warranty
Samuel P. O. No. 7031-01-P-M-113
Project 1200-BN-203; Cobalt Concentrator Project
CPE Filters Job No. 6799

Mr. Kelly:

As you requested in your email to our representative, Mr. Key Irwin of TechnaFlo in your email dated June 25, 2008, CPE Filters is pleased to provide you with the following Emissions Warranty:

C. P. E. Filters, Inc. warrants that the particulate matter concentration in the effluent gas will not exceed an average of 0.02 grains per actual cubic foot. The guarantee is based on the operating parameters as listed below, that the dust particles are two (2) microns and larger in diameter, and that the equipment is being properly installed and maintained according to the standard C. P. E. Filters' instructions. Effluent testing, if required, will be conducted generally in accordance with the procedures as outlined in Title 40, Part 60 of the Code of Federal Regulations. The effluent tests shall not take into consideration condensables."

Dust Collector Operating Parameters for CPEF Job No. 6799

* *Information to be supplied by Purchaser*

Model No.	72-BF-016-C	Air-to-Cloth Ratio	4.73:1 acfm/ft^2
Gas Volume	700 acfm	Operating Pressure	-6" w. g.
Cloth Area	148 ft^2	Bag Material	16 oz. Singed Polyester Felt
Quantity of Bags	16	Gas Temperature	Ambient
Bag Dimensions	5-7/8" Dia. x 74" L	Dust Loading	*
Dust Material	Cobalt Fines	End Use	Silo Bin Vent Filter
Dust Bulk Density	125 – 140 lb/ft^3		

5 Earl Court, Suite 130, Woodridge, IL 60517 • 630.771.9993 • Fax: 630.771.9994
Toll Free: 866.771.CPEF (2733)

Dust Collector Operating Parameters for CPEF Quotation No. SF-13710 Rev. 03

** Information to be supplied by Purchaser*

Model No.	120-TNFD-420-C	Air-to-Cloth Ratio	4.15:1 acfm/ft^2
Gas Volume	27,000 acfm	Operating Pressure	-14" w. g.
Cloth Area	6,510 ft^2	Bag Material	16 oz. Singed Polyester Felt
Quantity of Bags	420	Gas Temperature	<250°F
Bag Dimensions	5-7/8" Dia. x 120" L	Dust Loading	10 grains/dscf
Dust Material	Cobalt Fines	End Use	*
Dust Bulk Density	140 lb/ft^3		

We trust that the above is to your satisfaction. If you have any questions or comments, please do not hesitate to contact this office.

Sincerely,
C. P. E. FILTERS, INC.

Scott Franco
Regional Sales Manager
sfranco@cpef.com

SDF

cc: Mr. Key Irwin
TechnaFlo, Inc.
P. O. Box 3479
Englewood, CO 80155
Tel: 303-699-9844
Fax: 303-693-8449
kirwin@techna-flo.com